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Guidelines for Mobile Pesticide Storage Facilities

A **mobile pesticide storage facility** is a compartment used for storing pesticides for any period less than 90 days. Guidelines apply to pesticide application operations that store pesticide on a vehicle or trailer (mobile or stationary) where the combined amount of pesticide in storage exceeds 10 litres (liquid) or 10 kilograms (dry).

REQUIREMENTS

Anyone who stores pesticide is responsible to take basic measures to protect human health and the environment. Pesticide must be stored:

- in a place and a manner that will not cause an adverse effect. "Adverse effect: is defined in the EPEA to mean "impairment of or damage to the environment, human health or safety or property".
- in a manner to prevent contact with or contamination of any animal, plant, food or drink.
- separately from food and "personal use items" (drugs, cosmetics, first aid and medical supplies, personal hygiene products and disposable diapers).
- away from water sources.

  *Note: A pesticide stored **for any period of time** within 30 horizontal metres of an "open body of water" (lake, river, stream or irrigation canal) requires a Pesticide Special Use Approval from Alberta Environment.*
- on sites which are not subject to flooding (i.e. located to withstand a 24-hour, 1 in 25 year storm without flooding).
- protected from rain, wind and other weather hazards to ensure integrity of the product, packaging and the label.
- with open containers or packages closed or repackaged in a manner that controls odours and vapours.

Security

- all pesticide products must be protected from unauthorized access while the person responsible is away from the mobile storage facility for any period of time (this requirement can be met by either having a cabinet or compartment that can be closed and locked or by parking the mobile storage facility in a secured area).
- all pesticide concentrate containers, entirely or partially filled, must be closed to prevent odour release and secured in a manner that will prevent tipping or spilling.

- operators should manage all containers such that the risk of accidental punctures, overheating in an enclosed space, freezing, jostling, etc. are minimized and preferably preventable. Operators should be aware that some manufacturer's containers may be more susceptible to spillage with rougher transportation conditions.

Signage

- while being transported, mobile storage facilities containing any regulated pesticides must be signed with the appropriate placards as per the requirements under the *Transportation of Dangerous Goods Act* and Regulations.
- it is recommended that all mobile storage facilities, whether in transport and/or stationary, have an appropriate warning sign that is legible and bearing the words "Pesticide Storage, Authorized Persons Only – Warning in case of Fire Use Extreme Caution" or similar wording acceptable to an inspector.

Secondary Containment

- a mobile pesticide storage facility should be designed and/or located in a manner as to ensure that any release of pesticide concentrate can be contained within the boundaries of the facility.
- secondary containment in a mobile facility must be available for any amount of stored liquid pesticide concentrate in containers between 10 L and 110 L in volume.
- in order to ensure containment of any damaged pesticide containers in a mobile storage facility, the facility should accommodate the volume of the largest container plus 10% of the total pesticide (liquid) in storage as a minimum.
- secondary containment must be protected from pesticide absorption and must be:
    a) a non-combustible material, or
    b) combustible material, if
        (i) constructed to act as an inner lining to an existing non-combustible material, or
        (ii) constructed of a material designed to withstand puncture and environmental or chemical degradation.
- containers that are equal to or exceed 110 L in liquid volume are usually constructed of a material with a strength for reduced risk of puncture or some other method of breakage (prior to purchasing the operator is advised to check container integrity that has been qualified by a recognized assurance program). These containers must be secured to the mobile storage facility in a manner such that they will not move on their own while in transport. In addition, if there is any indication that spillage or leakage is evident in/on the mobile storage facility, an inspector will require secondary containment that will at minimum accommodate the volume of the largest container plus 10% of the total pesticide (liquid) in storage.

These guidelines do not apply to:

a) pesticide that is mixed in solution and part of application equipment,
b) pesticide concentrate that is in a closed application system (injection tank) designed, constructed and maintained to eliminate spills,
c) pesticide concentrate on All Terrain Vehicles travelling to or during treatment of an application site and attended at all times, or
d) a vehicle used solely to transport pesticide between point of purchase and point of storage and attended at all times.

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Background

The *Environmental Protection and Enhancement Act (EPEA)* and the Pesticide Sales, Handling, Use and Application Regulation 24/97 provide the basis for the requirements for pesticide storage. These are further expanded in an Alberta Environment document created through industry and government consultation entitled "Pesticide Storage: Regulatory Requirements and Guidelines (Schedule 1 & 2 Pesticides)". This guideline provides a framework for pesticide storage primarily in a permanent facility[1]. It does **not** provide the basis for decisions regarding mobile pesticide storage facilities (eg. a vehicle with a compartment for storing pesticides in quantities greater than 10 litres or 10 kilograms).

The majority of pesticide services operate at sites away from their base location. As a result they are transporting pesticide solution and concentrate on their vehicles to the site of application. The risk of accidental spill is greatest while in transit or loading/unloading at the mixing/application site. In the past, decisions by Department inspectors regarding mobile storage have been based on their application of the guidelines for permanent facilities. They primarily focus on:

a) security from public access
b) appropriate warning signs
c) design to ensure containment of a release
d) floor base protected from pesticide absorption

There has always been concern as to what is appropriate secondary containment for pesticide concentrate. The Guideline states:

> *"containment should be capable of retaining up to 110% of the liquid volume stored and be of non-combustible material (granular / dry flowable formulations are exempt from secondary containment requirements). Containment less than 110% may be permitted following review by Alberta Environment and the local fire authority."*

The 110% capacity is a regulatory requirement under the *Alberta Fire Code* (1997) for aboveground storage tanks and is used as a reference guideline for permanent pesticide storage facilities.

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[1] **permanent facility** is designed and constructed for a location that is in place for a time period exceeding 90 days.

The Dangerous Goods Transportation and Handling Regulation, Alberta Regulation 157/97, primarily addresses the need for proper containers, labeling and shipping documentation. They do not specify the need for secondary containment. The *Transportation of Dangerous Goods Act* (Canada), Section 7.35, states that a contravention has occurred if there is a spill or leak during transportation or while in storage:

> "No person shall, in the course of transporting dangerous goods, load, unload or store the dangerous goods in a manner that could cause a discharge, emission or escape of the dangerous goods from the means of containment that could constitute a danger to health, life, property or the environment."

Section 7.38 further requires that containers be adequately secured. Therefore it is the operator's responsibility to demonstrate due diligence by taking the necessary steps to prevent leakage or spillage of a pesticide from his vehicle.

Pesticide regulations do not provide a specific limit for secondary containment volumes. They require only that "releases of pesticide concentrate can be contained within the boundaries of the storage site". The "site" means the grounds where a pesticide facility is stored and the "storage facility" includes a compartment in a vehicle. Any mobile storage unit, such as a large metal tool box type structure, a lockable secondary containment barrel, or a trailer with metal spill pan that are commonly encountered in field inspections are not always brought back to the operation site at the end of each day. A "site" where the mobile storage unit may be parked could include a parking lot, airport field, farm field, right-of-way, or any other base where the length of stay is determined by the time required to complete the job (i.e. overnight or a number of weeks).

Current Position

All storage provisions (security, warning signs, floors and floor drains, etc.) in the provincial pesticide regulations are kept fairly generic so that inspectors can exercise some flexibility in their decisions regarding security and containment. Through working with representatives of the Industrial Vegetation Management Association of Alberta (IVMAA) to develop pesticide storage guidelines specific to mobile storage situations, the following will be used as the criteria for conducting inspections of mobile storage facilities.

Questions or concerns regarding these guidelines may be directed to the Pesticide Management Program office of the:

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